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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,329	11/07/2001	Lace J. Herman	3123-389	3429

32093 7590 03/30/2004

HANSRA PATENT SERVICES
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BELLINGHAM, WA 98226

EXAMINER

KERVEROS, JAMES C

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 03/30/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,329

Applicant(s)

HERMAN ET AL.

Examiner

James C Kerveros

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to because the application lacks formal drawings, FIGS 1 and 2. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because it does not comply with proper language and format as indicated below. It should avoid using phrases, such as, "the method and apparatus are disclosed" line 1, "attempted" line 7, "attempt" line 8, and "attempts" line 11. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-14, 16, 19-25 and 26-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 3, 7, 8, 16, 19-22, 25, 26, 29, 32 and 33, recite the phrase "attempting" or "attempts" or "attempt", which render the claims indefinite, because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 4-6, 9-15, 17, 18, 23, 24, 27, 28, 30, 31 and 34-40 are also rejected because they depend upon a rejected claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada (US 5812752), issued: September 22, 1998.

Regarding Claim 1, 2, 26, 27, 28, 33, method for error recovery in a disk drive, comprising:

Providing an error recovery ERP table (425, FIG. 6) having a plurality of error recovery steps arranged in an error recovery step order stored in the hard disk drive (HDD), shown in FIG. 1.

Detecting a first read error, as indicated by the status notification that an error occurred, and then the read/write manager 421 demands that the ERP 423 be executed.

Recovering from the first read error by the ERP 423 executing a predetermined error recovery process with respect to the physical location of the error and according to the type of error from the static ERP table 425.

Determining a successful error recovery step, such as "when an error recovery succeeds, then the ERP 423 returns to normal process operation".

Adjusting the error recovery step order in the hard disk drive based on the determining step, by changing the execution order from static to dynamic steps, where the time at which the ERP shifts from static to dynamic ERP steps differs depending on the type of error, FIG. 6.

Regarding Claims 3-15, 34-40, Yamada discloses recording a first error in the position storage (FIG. 6) of the read/write type processing mechanism 405, associated with the error type and location, as indicated by ERP Tables (FIGS. 3-5), (and described in col. 6, lines 13-19).

Regarding Claim 16-19, 29-32, Yamada discloses a second storage area (static ERP table, FIG. 3) including weighting data, such as total execution time for each ERP step for each error type, indicating the time the error recovery step is given in the error recovery table. If the elapsed time is less than a critical time, then, in step 204, FIG. 2, the next static ERP step specified in the static ERP table is loaded.

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Regarding Claim 20, Yamada discloses a hard disk drive (HDD), FIG. 1, comprising:

A magnetic storage disk (18A), FIG. 1.

A transducer heads (20A, 20B) supported by actuator arms (22A, 22B), each head (20A, 20B) situated opposite a corresponding disk surface and operable to read and write data to the magnetic storage disk (18A), (col. 3, lines 62-66).

Control electronics, such as disk drive unit 14 and head drive unit 28 connected to the HDC 30, which is operable to actuate arms (22A, 22B) and send and receive write and read signals to and from transducer heads (20A, 20B).

A memory located in a hard disk controller (HDC) 30, having a first and a second storage area, where the second storage area stores the error recovery ERP table (425) having error recovery steps arranged in a step order, FIG. 6.

Wherein the control electronics are operable to detect an error in the read data, as indicated by the status notification that an error occurred, then the read/write manager 421 demands that the ERP 423 be executed and recovering from the first read error by the ERP 423 executing a predetermined error recovery process with respect to the physical location of the error and according to the type of error from the static ERP table (425, FIG. 6); which is specified as the first error recovery table (static ERP table, FIG. 3) and which is loaded in step (204, FIG. 2) shown by the flowchart of the error recovery procedure.

And adjusting the error recovery step order in the hard disk drive based on the determining step, by changing the execution order from static to dynamic steps, where

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the time at which the ERP shifts from static to dynamic ERP steps differs depending on the type of error, FIG. 6.

Regarding Claims 21-24, Yamada discloses second storage area, which stores a second error recovery table, such as a dynamic error recovery table of the error recovery procedure (FIG. 4), wherein the first error recovery table (static ERP table, FIG. 3) is associated with a first disk surface of storage disk (18A) corresponding to head (20A), and the second error recovery table (FIG. 4) is associated with a second disk surface of storage disk (18A) corresponding to head (20B) situated opposite the disk surface, where each disk surface has sixteen (16) data zones, and wherein the control electronics are operable to read and write data to the magnetic storage disk (18A) and wherein the control electronics are operable to determine if the error is located on the first or second disk surface, further performing a recovering routine ERP (423, FIG. 6) and executing a predetermined error recovery process with respect to the physical location of the error and according to the type of error from the (static ERP table, FIG. 3) and form the dynamic error recovery table of the error recovery procedure (FIG. 4).

Regarding Claim 25, Yamada discloses a second storage area (static ERP table, FIG. 3) including weighting data, such as total execution time for each ERP step for each error type, indicating the time the error recovery step is given in the error recovery table. If the elapsed time is less than a critical time, then, in step 204, FIG. 2, the next static ERP step specified in the static ERP table is loaded.

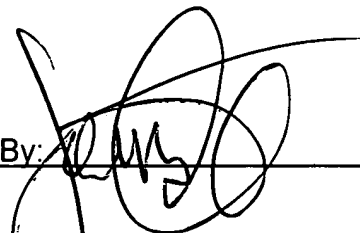
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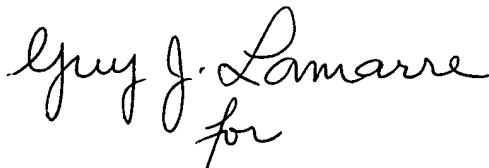
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James C Kerveros whose telephone number is (703) 305-1081. The examiner can normally be reached on 9:00 AM TO 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

U.S. PATENT OFFICE
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Date: 23 March 2004
Office Action: Non-Final Rejection

By: 
James C Kerveros
Examiner
Art Unit 2133


for
Albert DeCady
Primary Examiner